

**COMBINED DECLARATION
AND POWER OF ATTORNEY**

(Original, Design, National Stage of PCT, Divisional, Continuation or C-I-P Application)

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name; I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

VASCULAR ENDOTHELIAL ZINC FINGER 1 GENE AND PROTEIN AND USES THEREOF

This declaration is of the following type:

- ☒ original
☐ design
☐ national stage of PCT.
☐ divisional
☐ continuation
☐ continuation-in-part (C-I-P)

the specification of which: *(complete (a), (b), or (c))*

(a) ☐ is attached hereto.

(b) ☒ was filed on May 22, 1998 as Application Serial No. 09/083,290.

(c) ☐ was described and claimed in PCT International Application No. filed on and was amended on *(if applicable)*.

Acknowledgement of Review of Papers and Duty of Candor

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the patentability of the subject matter claimed in this application in accordance with Title 37, Code of Federal Regulations § 1.56.

☐ In compliance with this duty there is attached an information disclosure statement. 37 CFR 1.98.

Priority Claim

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) of any foreign application(s) for patent or inventor's certificate or of any PCT International Application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT International Application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application on which priority is claimed

(complete (d) or (e))

(d) ☒ no such applications have been filed.

(e) ☐ such applications have been filed as follows:

PRIOR FOREIGN/PCT APPLICATION(S) FILED WITHIN 12 MONTHS (6 MONTHS FOR DESIGN) PRIOR TO SAID APPLICATION			
COUNTRY	APPLICATION NO.	DATE OF FILING (day, month, year)	DATE OF ISSUE (day, month, year)
			PRIORITY CLAIMED UNDER 35 USC 119 <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/>
			<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/>
			<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/>
ALL FOREIGN APPLICATION[S], IF ANY, FILED MORE THAN 12 MONTHS (6 MONTHS FOR DESIGN) PRIOR TO SAID APPLICATION			
			<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/>
			<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/>
			<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/>

Claim for Benefit of Prior U.S. Provisional Application(s)

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below:

Provisional Application Number	Filing Date

Claim for Benefit of Earlier U.S./PCT Application(s) under 35 U.S.C. 120

(complete this part only if this is a divisional, continuation or C-I-P application)

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) or PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior application(s) in the manner provided by the first paragraph of Title 35, United States Code § 112, I acknowledge the duty to disclose information as defined in Title 37, Code of Federal Regulations, § 1.56 which occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application:

(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)
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(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)
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Power of Attorney

As a named inventor, I hereby appoint Dana M. Raymond, Reg. No. 18,540; Frederick C. Carver, Reg. No. 17,021; Francis J. Hone, Reg. No. 18,662; Joseph D. Garon, Reg. No. 20,420; Arthur S. Tenser, Reg. No. 18,839; Ronald B. Hildreth, Reg. No. 19,498; Thomas R. Nesbitt, Jr., Reg. No. 22,075; Robert Neuner, Reg. No. 24,316; Richard G. Berkley, Reg. No. 25,465; Richard S. Clark, Reg. No. 26,154; Bradley B. Geist, Reg. No. 27,551; James J. Maune, Reg. No. 26,946; John D. Murnane, Reg. No. 29,836; Henry Tang, Reg. No. 29,705; Robert C. Scheinfeld, Reg. No. 31,300; John A. Fogarty, Jr., Reg. No. 22,348; Louis S. Sorell, Reg. No. 32,439 and Rochelle K. Seide, Reg. No. 32,300 of the firm of BAKER & BOTTS, L.L.P., with offices at 30 Rockefeller Plaza, New York, New York 10112, as attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith

SEND CORRESPONDENCE TO: BAKER & BOTTS, L.L.P. 30 ROCKEFELLER PLAZA, NEW YORK, N.Y. 10112 CUSTOMER NUMBER: 21003	DIRECT TELEPHONE CALLS TO: BAKER & BOTTS, L.L.P. (212) 705-5000
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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section

1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

FULL NAME OF SOLE OR FIRST INVENTOR	LAST NAME Stuhlmann	FIRST NAME Heidi	MIDDLE NAME	
RESIDENCE & CITIZENSHIP	CITY New York	STATE or FOREIGN COUNTRY New York	COUNTRY OF CITIZENSHIP Germany	
POST OFFICE ADDRESS	POST OFFICE ADDRESS 200 East 94th Street Apt. 1514	CITY New York	STATE or COUNTRY New York	ZIP CODE 10128
DATE 07/07/98	SIGNATURE OF INVENTOR <i>Heidi Stuhlmann</i>			
FULL NAME OF SECOND JOINT INVENTOR, IF ANY	LAST NAME Xiong	FIRST NAME Jing-Wei	MIDDLE NAME	
RESIDENCE & CITIZENSHIP	CITY New York	STATE or FOREIGN COUNTRY New York	COUNTRY OF CITIZENSHIP People's Republic of China	
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DATE 7/7/98	SIGNATURE OF INVENTOR <i>Jing-Wei Xiong</i>			
FULL NAME OF THIRD JOINT INVENTOR, IF ANY	LAST NAME Taubman	FIRST NAME Mark	MIDDLE NAME B.	
RESIDENCE & CITIZENSHIP	CITY Larchmont	STATE or FOREIGN COUNTRY New York	COUNTRY OF CITIZENSHIP US	
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DATE 2/2/98	SIGNATURE OF INVENTOR <i>Mark B. Taubman</i>			
FULL NAME OF FOURTH JOINT INVENTOR, IF ANY	LAST NAME	FIRST NAME	MIDDLE NAME	
RESIDENCE & CITIZENSHIP	CITY	STATE or FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP	
POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE or COUNTRY	ZIP CODE
DATE	SIGNATURE OF INVENTOR			
FULL NAME OF FIFTH JOINT INVENTOR, IF ANY	LAST NAME	FIRST NAME	MIDDLE NAME	
RESIDENCE & CITIZENSHIP	CITY	STATE or FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP	
POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE or COUNTRY	ZIP CODE
DATE	SIGNATURE OF INVENTOR			
FULL NAME OF SIXTH JOINT INVENTOR, IF ANY	LAST NAME	FIRST NAME	MIDDLE NAME	
RESIDENCE & CITIZENSHIP	CITY	STATE or FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP	
POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE or COUNTRY	ZIP CODE
DATE	SIGNATURE OF INVENTOR			

FULL NAME OF SEVENTH JOINT INVENTOR, IF ANY	LAST NAME	FIRST NAME	MIDDLE NAME	
RESIDENCE & CITIZENSHIP	CITY	STATE or FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP	
POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE or COUNTRY	ZIP CODE
DATE	SIGNATURE OF INVENTOR			

Check proper box(es) for any added page(s) forming a part of this declaration

- ☐ Signature for ninth and subsequent joint inventors. Number of pages added _____.
- ☐ Signature by administrator(trix), executor(trix) or legal representative for deceased or incapacitated inventor.
Number of pages added _____.
- ☐ Signature for inventor who refuses to sign, or cannot be reached, by person authorized under 37 CFR 1.47.
Number of pages added _____.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Stuhlmann et al.

Serial No.: 09/083,290

Examiner : Wilson, M

Filed : May 22, 1998

Group Art Unit: 1633

For : VASCULAR ENDOTHELIAL ZINC FINGER 1 GENE AND PROTEIN
AND USES THEREOF

DECLARATION OF DR. HEIDI STUHLMANN

Assistant Commissioner for Patents
Washington, DC 20231

Sir:

I, Dr. HEIDI M. STUHLMANN, DECLARE THE FOLLOWING:

1. I am a co-inventor of the above-identified patent application.
2. I am a co-author of the attached manuscript, which describes experiments which (i) investigated the expression of *Vezfl* in the adult vasculature and compared it with that of another endothelial cell marker gene, *flk-1*, and (ii) compared the regulation of these genes in model systems for arterial injury and tumor angiogenesis. Using RNA *in situ* hybridization, *Vezfl* expression in the vasculature was found to be restricted to the endothelium of capillaries and mature vessels. Upon arterial injury, expression of *Vezfl*, but not *flk-1*, was up-regulated in the regenerating endothelium only. During tumor angiogenesis, up-regulation of *Vezfl* was detected throughout the capillary network within tumors induced by human primary carcinoma cell lines grown in nude mice, as well as in metastatic human tumors.
3. Based on the results of experiments described in the attached manuscript, I conclude that *Vezfl* is a marker specific for adult endothelial cells which is expressed normally in

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the endothelial cell lining of capillary networks and mature vessels throughout adult tissues. Its expression is upregulated in proliferating endothelial cells during pathological growth, i.e. arterial injury, tumor angiogenesis and atherosclerotic plaque development. Restriction to vascular endothelial cells and upregulation of expression in these cells during normal and pathological proliferation demonstrate that *Vezf1* is a potent marker for angiogenesis. Therefore, *Vezf1* would be useful for identifying endothelial cells and for detecting arterial injury and angiogenesis in histopathologic evaluations. Further, in view of its more uniform expression in endothelial cells from a diversity of tissues and its increased expression in regenerating endothelium, *Vezf1* may be a better marker for endothelial cells than the known endothelial cell marker, *flk-1*.

4. I hereby declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true and further that I make these statements with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the above-identified patent application or any patent issuing thereon.

Date: November 18, 2001

Signed: Heidi Stuhlmann

Dr. Heidi Stuhlmann

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